

What is claimed is:

1. A system for delivering a tool to opposite sides of an underlying tubular body, comprising:

5 a motorized trolley assembly configured to ride on an upper lip of the underlying tubular body;

a substantially vertically supported column assembly having a first part rotatably mounted on the trolley assembly and having at least one laterally extending arm spaced from the first part such that rotation of the column  
10 assembly positions a peripheral end portion of the laterally extending arm on an inboard side or an outboard side of the underlying tubular body;

an extendable pole assembly having a first part attached to the laterally extending arm and a second part spaced from the first part of the extendable pole assembly for extending the second part of the extendable pole assembly  
15 to a preselected elevation below the upper lip of the underlying tubular body; and

a tool adjustably attached to the second part of the extendable pole assembly whereby the tool may be tilted or rotated while at the preselected elevation below the upper lip of the underlying tubular body on either the  
20 inboard side or the outboard side.

2. The delivery system of Claim 1, wherein the column assembly includes:

a second stationary part;

a remotely positionable camera mounted on an upper portion of  
25 the second stationary part above the first part of the column assembly to provide an overview of the tool as the tool is moved.

3. The delivery system of Claim 2 wherein the remotely positionable camera is moveable in the vertical direction to an elevation at least equal to the upper most elevation of the column assembly

30 4. The delivery system of Claim 1, including a substantially continuous track assembly sized and configured to be supported on and

around the upper lip of the underlying body and wherein the motorized trolley assembly rides on the track assembly.

5. The delivery system of Claim 4, wherein the track assembly extends substantially 360°.

5 6. The delivery system of Claim 5, wherein the track assembly is adjustable to fit different diameter tubular bodies.

7. The delivery system of Claim 4, wherein the track guides and supports the trolley so the pole assembly is maintained vertical without support from other reactor surfaces.

10 8 The delivery system of Claim 4 wherein the motorized trolley assembly includes a remotely operated cam that when rotated clamps onto the track to aid stability.

9. The delivery system of Claim 1, wherein the first part of the  
15 column assembly rotates approximately 180°.

10. The delivery system of Claim 1, wherein the tool rotates around an arc approximately 180°.

11 The delivery system of Claim 1 wherein the laterally extending arm extends at a downwardly directed angle.

20 12. The delivery system of Claim 11 wherein the downwardly directed angle is between 45 and 60 degrees.

13. The delivery system of Claim 11 wherein the laterally extending arm has an elongated dimension in the direction of the downwardly directed angle, including a first track extending along at least a portion of the elongated  
25 dimension and wherein the first part of the extendable pole assembly is supported and moveable along the first track on the laterally extending arm.

14. The delivery system of Claim 13 including a second laterally extending arm supported at one end from the first part of the column assembly, below and parallel to the other laterally extending arm, wherein the  
30 second laterally extending arm has an elongated dimension having a second track extending along at least a portion thereof parallel to the first track and the first part of the extendable pole assembly is supported on the second

track along an elongated dimension of the first part of the extendable pole assembly spaced from the location supported by the first track and the extendable pole assembly is moveable along the second track on the second laterally extending arm parallel to the column assembly.

5           15.    The delivery system of Claim 1, wherein the extendable pole assembly includes a plurality of nested telescoping sections.

          16.    The delivery system of Claim 15 wherein each of the sections has a square cross section.

          17.    The delivery system of Claim 1 wherein the tool is a camera  
10   including a hydrolaser for directing a stream of high pressure fluid the area that the camera is viewing.

          18.    The delivery system of Claim 17 wherein the hydrolaser includes two spray nozzles located to direct non-interfering streams of high pressure fluid in opposite directions to balance the reaction forces on the camera.

15           19.    A method for delivering a tool to a given location in a boiling water reactor, comprising the steps of:

          supporting the tool from a core shroud of the boiling water reactor containing fuel assemblies; and

          positioning the tool in an annulus between a boiling water reactor  
20   vessel and the core shroud while moving fuel assemblies in the core shroud.